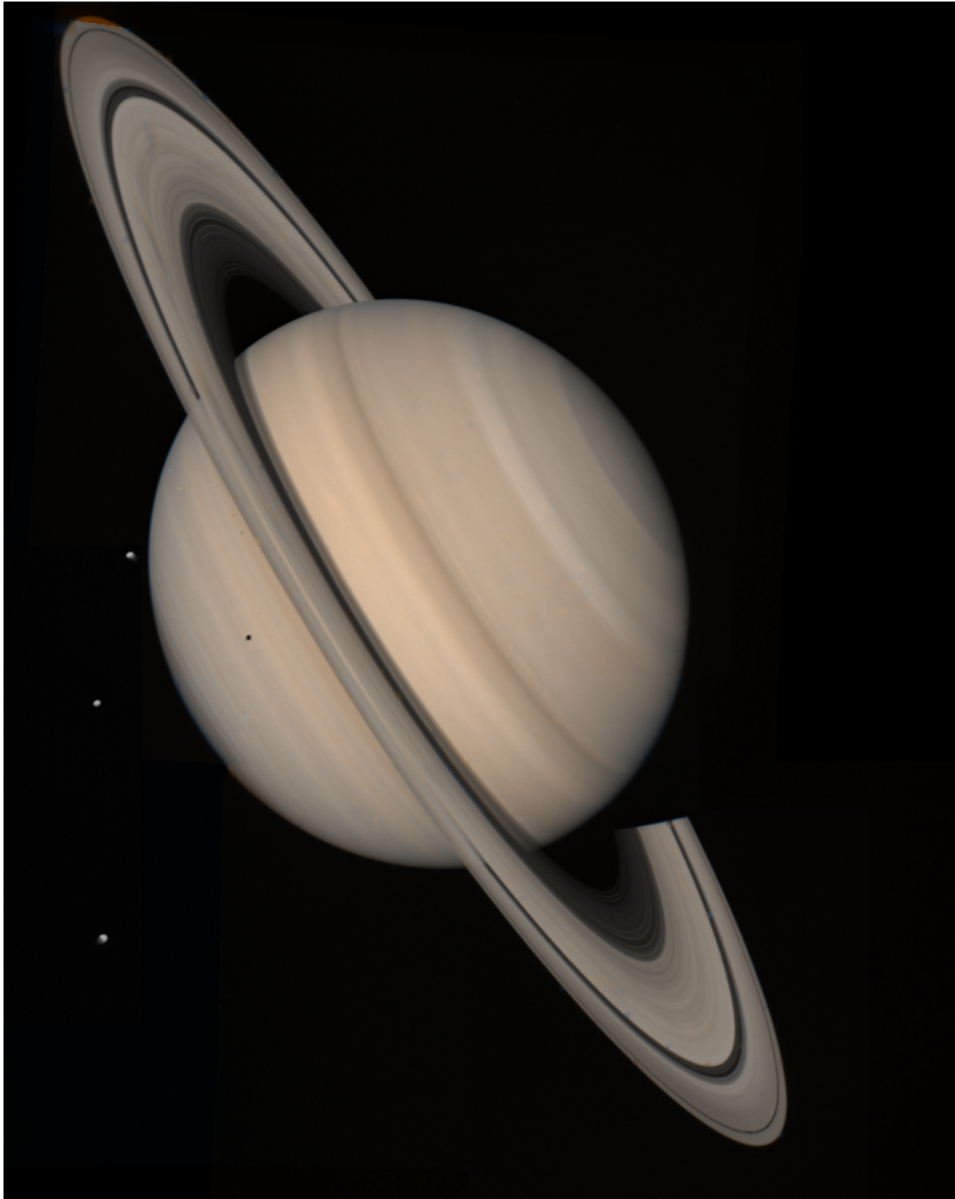


```
clear variables
```

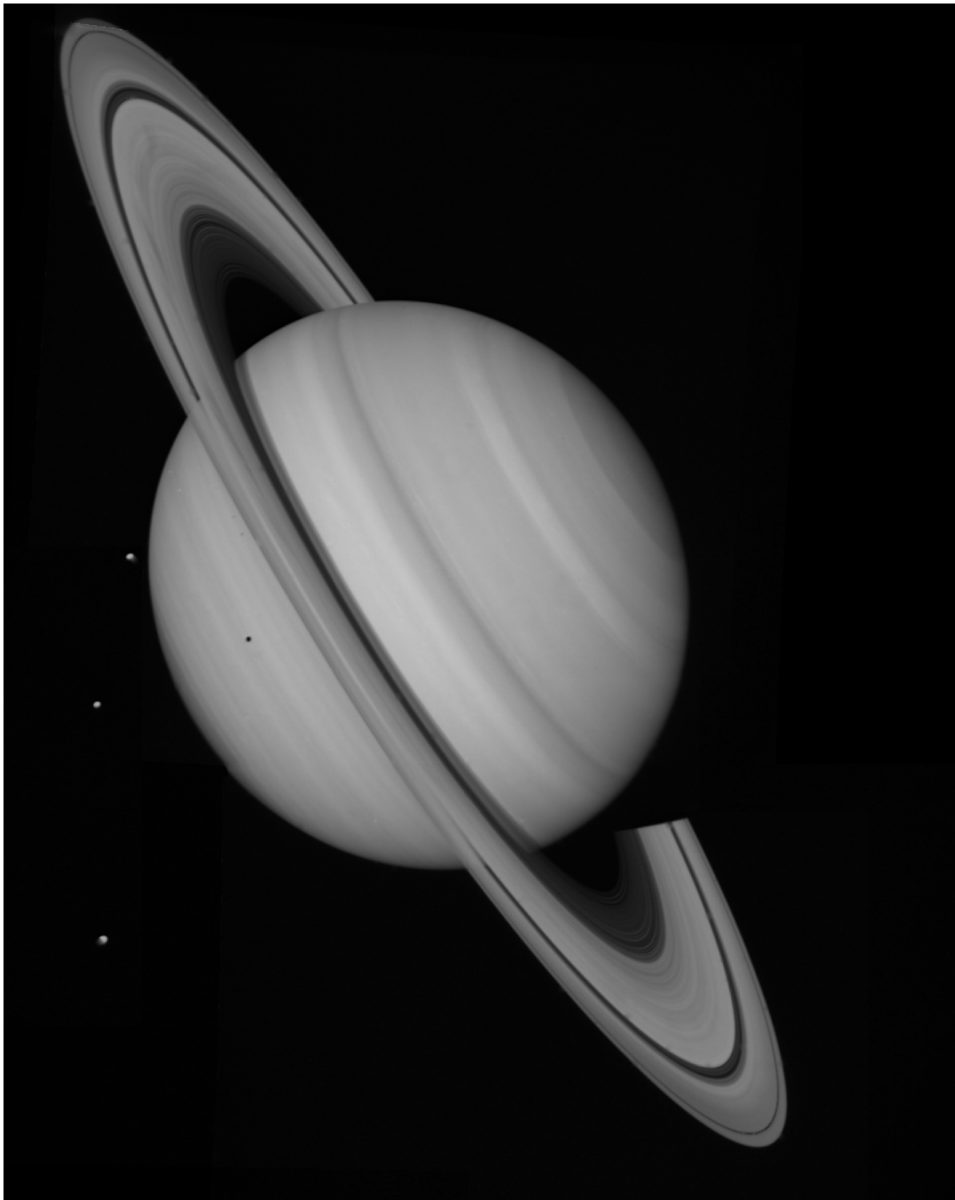
```
% a)  
saturn = imread('saturn.png');  
figure, imshow(saturn);
```



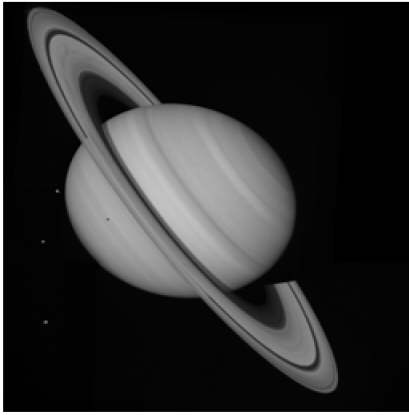
```
cameraman = imread('cameraman.tif');  
figure, imshow(cameraman);
```



```
% b)
saturn = rgb2gray(saturn);
figure, imshow(saturn);
```

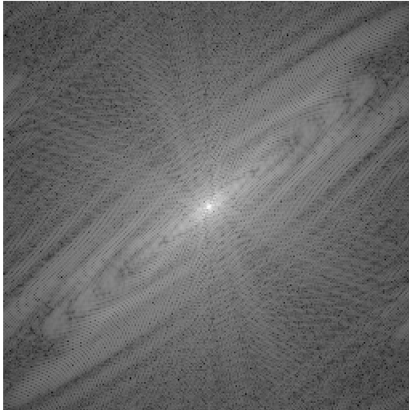


```
% c)
x = size(cameraman,1);
y = size(cameraman,2);
saturn = imresize(saturn,[x y]);
figure, imshow(saturn);
```



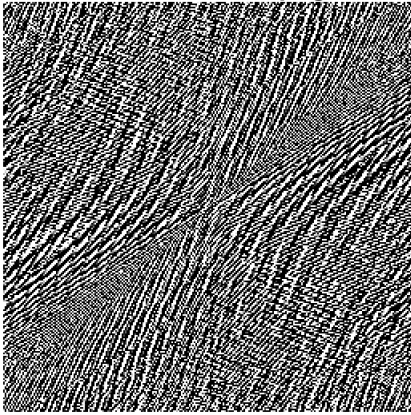
```
% d)
sat1 = fftshift(fft2(double(saturn)));
cam1 = fftshift(fft2(double(cameraman)));
% e)
mag_sat = log(abs(sat1));
pha_sat = angle(sat1);
figure, imshow(mag_sat,[]); title('Magnitude - saturn.png')
```

Magnitude - saturn.png



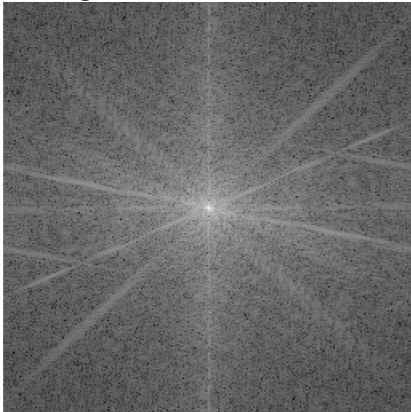
```
figure, imshow(pha_sat); title('Phase - saturn.png')
```

Phase - saturn.png



```
mag_cam = log(abs(cam1));  
pha_cam = angle(cam1);  
figure, imshow(mag_cam,[]); title('Magnitude - cameraman.tif')
```

Magnitude - cameraman.tif



```
figure, imshow(pha_cam); title('Phase - cameraman.tif')
```

Phase - cameraman.tif

